

Table 1-7. Summary of hypotheses for the Huntington Beach Shoreline Contamination Investigation, Phase III. May-October 2001.

Hypothesis A – Subsurface Transport
<p>A.1 Oceanographic currents transport wastewater into the near-shore area off Huntington State Beach.</p> <ul style="list-style-type: none"> • process is exacerbated during stratified periods and large spring tides. • thermocline traps plume at depth. • wastewater is transported cross-shelf by: (a) internal waves, particularly shoaling internal tides, and/or (b) wind induced baroclinic flow • alongshore and cross-shelf currents transport plume to "areas of vulnerability"
<p>A.2 Wastewater is moved from near-shore area into surfzone by: (a) wave induced mixing, (b) power plant plume, (c) upwelling, and/or (d) internal tide/wave run-up</p>
Hypothesis B – Surface Transport Hypothesis
<p>B.1 Wastewater surfaces offshore because of: (a) upwelling, (b) buoyant particles/grease balls, and/or (c) breaking internal waves.</p>
<p>B.2 Surface currents move wastewater to shore.</p>
Hypothesis C – Sediment Transport Hypothesis
<p>C.1 Wastewater particles settle out of the plume and onto the ocean floor to create a reservoir of bacteria in the fine sediments.</p>
<p>C.2 There is a net shoreward transport of fine sediments by internal waves and surface waves</p>
<p>C.3 Resuspension of fine sediment under certain conditions brings particles to the shoreline</p>